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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE MATTER OF:

APPLICANT: PREUKSCHAT EXAMINER: LAN NGUYEN

SERIAL NO.: 10/008,895 GROUP ART UNIT: 3683

FILED: DECEMBER 7, 2001

FOR: CONTROLLABLE VIBRATION DAMPER WITH POWER DAMPING CONTROL

February 14, 2006

APPEAL BRIEF

FEE PAYMENT → The fee for the present Appeal Brief was already previously paid with the filing of the previous Appeal Brief on July 27, 2004. The previous Appeal was withdrawn by the Examiner with the issuance of the Office Action of October 15, 2004.

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Hon. Commissioner of Patents
and Trademarks
Washington, D.C. 20231

S I R:

The fee for the present Appeal Brief was already previously paid with the filing of the previous Appeal Brief on July 27, 2004. The previous appeal was withdrawn by the Examiner with the issuance of the Office Action of October 15, 2004.

This is an appeal from the Final Rejection of the Examiner of the claims in the present application.

REAL PARTY IN INTEREST: Krupp Bilstein GmbH

RELATED APPEALS AND INTERFERENCES: None

STATUS OF CLAIMS:

Claims pending: 1m 4-8, 10 and 11

Claims withdrawn: 4, 5, 7 and 8

Claims cancelled: 2, 3, and 9

Claims appealed: 1, 6, 10 and 11

STATUS OF AMENDMENTS:

All previous amendments have been entered.

SUMMARY OF CLAIMED SUBJECT MATTER:

A dashpot having a piston 3 mounted on the end of a piston rod 2 and traveling back and forth inside a cylinder 1. A

reservoir 4 contains a compressed gas that compensates for the volume of hydraulic fluid displaced by piston 3. Two regulating valves 5 and 6 are hydraulically in parallel. A bypass valve 7 is in parallel with both regulating valves 5 and 6, and is narrowly constricted. Bypass valve 7 provides minimal passage for the hydraulic fluid and thereby prevents the dashpot from being entirely blocked while regulating valves 5 and 6 are closed. Regulating valves 5 and 6 provide continuous regulation when closed, and allow the fluid to flow. Regulating valve 5 regulates the flow while piston 3 travels in the compression direction. Valve 6 regulates the flow while the piston travels in the decompression direction. The rate of flow depends on the difference between the pressure in an upper chamber 8 and a lower chamber 9. These two chambers are separated by piston 3. The flow rate is also dependent on the cross-section of the passage through regulating valves 5 and 6.

(Figure 1; specification: page 3, lines 1-26)

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL:

The Examiner has applied the following references in the rejection of the claims:

U.S. 5,372,378 to Seufert

U.S. 4,986,393 to Preukschat et al

The Examiner has rejected claims 1 and 10 under 35 U.S.C. 102(b) as being anticipated by Seufert.

Claims 6 and 11 are rejected by the Examiner under 35 U.S.C. 103(a) as being unpatentable over Seufert.

Claims 1, 6, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Preukschat et al (USP 4,986,393) in view of Seufert.

ARGUMENT:

Contrary to the Examiner's position during a phone interview, the reference patent to Seufert does not disclose an

arrangement in which there is continuously varying damping. The entire patent to Seufert is devoted to the description that with the aid of on and off valves 38a and 38b three different damping stages may be attained, such as soft, medium, and hard. This is clearly described in the patent in column 5, lines 68 to column 6, line 10. There is no mentioning in this reference patent of a continuously varying damping force between these three stages or at any state of the Seufert damping arrangement.

The Examiner had commented that Figure 3a represents a continuously varying damping feature in the reference patent to Seufert. According to the Examiner, the representations in Figures 3b, 3c and 3d show different stepped operations which are not limited to three different damping stages. These assertions of the Examiner are, however, not correct.

Thus, Figure 3a does not at all show a damping function. Instead, Figure 3a shows the function of a control parameter with respect to time and on which the control of the shock absorber is to follow. This is clearly described in the Seufert reference patent in column 10, line 13 to line 23. As noted in this part of the reference patent, "represented in Figure 3a for the sake of example, is a time progression of the operational state quantity BZG, whereby the threshold values SCH-wm for a change between the soft and the medium damping characteristics, and SCH-mh for a change between the medium and the hard damping characteristics are entered as dotted lines parallel with the time axis t."

In the specification of the reference patent to Seufert, in column 3, line 65 to column 4, line 5, it is clearly described that the parameter BZG is an operational state quantity which has nothing to do with the damping force. The operational state quantity, as described in the specification at this location, is entirely unrelated to the damping force. In accordance with the specification at this location, the operational state parameter BZG is measured, for example, by steering angle sensors, or

vehicle speed sensors, or acceleration sensors which measure the acceleration of the vehicle.

Accordingly, the specification of the reference patent to Seufert is very clear that Figure 3a does not represent a continuous damping function, as asserted by the Examiner. Thus, the Examiner is in error in assuming that the operational state parameter represented in Figure 3a is related to the damping force. Figure 3a does not at all represent a continuous damping function.

Figure 3b of the reference patent to Seufert shows a control function of the shock absorber between the damping steps of soft, medium, and hard, and how it is possible to switch between these three states. The graphical representation in Figure 3b, is a stepped function, and is not a continuous damping function as provided by applicant. This is clearly described in the reference patent to Seufert in column 10, lines 23 to 29. At this location in the specification, it is noted that "shown in Figure 3b is the time progression of the damping characteristic DDW determined from this course of the operational state quantity BZG wherein the time axis t represents a soft damping requirement, and the medium and hard damping requirements are represented by dotted lines parallel with the time axis t."

Figure 3b, furthermore, shows clearly that along the Y axis there are three different damping levels, namely hard, medium, and soft. Therefore, in accordance with the reference patent to Seufert, the damping arrangement can be switched only between these three damping steps or levels. As a result, this reference patent cannot be considered to disclose a continuous damping function.

Similarly to Figure 3a, the graphical representation in Figure 3c does not at all correspond to a damping function. In Figure 3c there is shown, instead, the value T of the timing element 40, as a function of time. Figure 3c, consequently, has

also nothing to do with a continuous damping function as provided by applicant.

Figure 3d, finally, shows the different switching states which correspond to the open and closed states of the valve 68a and 58b. This is clearly described in the reference patent to Seufert in column 10, lines 32 to 38. As described at this location of the reference patent, "finally, the switching states of the shut-off valve 68a for soft damping characteristic and 68b for medium damping characteristic have been represented in Figure 3d, and in the diagram, respectively, the open valve state corresponds to a dotted line parallel to the time axis t, and the closed valve state corresponds to the time axis t itself."

In view of the preceding descriptions in the specification of the patent to Seufert, there can be no other understanding except that the controllable damping arrangement in this reference patent is switchable only between three different damping levels and there is no description or anticipation in this reference patent, whatsoever, of a continuous variable damping in the sense of applicant's invention.

During the phone interview held with the Examiner, the Examiner considered the throttling valve 60 in the reference patent to Seufert, to correspond or be equivalent to applicant's element 7. This implies that the Examiner considers the element 60 in the reference patent to Seufert, to be a "fixed by-pass valve with non-varying constricted flow cross-section." However, this assumption of the Examiner is incorrect. Thus, in column 5, lines 53 to 59 of the reference patent to Seufert, there is described "The two working chambers 56 and 58 are, on the one hand, in connection via at least one throttling path 60, possibly, however, also via two throttling paths allowing passage selectively pending on the direction of movement of the piston 54. A throttling path may be formed for example by one valve impinged by a spring."

Since the element 60 provides a throttling effect, this element 60 can be formed as a valve which is spring-loaded. Accordingly, here is a classical spring-loaded valve which first becomes opened when the pressure is sufficiently high so as to counteract the spring by compressing the spring against its spring force. There is no mentioning anywhere in this reference patent to Seufert, that the element 60 is a by-pass bore with a constant non-variable flow cross-section. In view thereof, the valve 60 cannot be considered to correspond to applicant's element 7.

During the phone interview held with the Examiner, the Examiner asserted that the elements 5 and 6 of applicant's arrangement correspond to the elements 68a and 68b of the reference patent to Seufert. This is entirely incorrect. In accordance with the reference patent to Seufert, the elements 68a and 68b correspond to electromagnetically actuated on-off valves, as described in the specification of this reference in column 5, lines 63 to 64. It is also clear from this reference patent to Seufert, that these elements 68a and 68b are switchable valves having the states "open" and "closed." These states are necessarily required to make it possible to switch among the three different damping steps of hard, medium and soft.

Column 5, lines 64 to 68 of the reference patent to Seufert, are related to Figure 1 with the description that the elements 66a and 66b are throttle bores with different flow cross-sections. It is also described there that the throttle bore 66a has a larger flow cross-section than the throttle bore 66b. As a result, the throttle bore 66a has a softer damping characteristics than the throttle bore 66b. Also, according to the reference patent to Seufert, the element 66a and 66b are not continuously variable damping valves in the sense of applicant's invention.

Applicant filed copies of Figures 1 and 3 of the reference patent to Seufert with comments thereon to summarize the essential differences between the reference patent to Seufert and applicant's invention.

In arguing against the claims in the application, the Examiner has erroneously taken elements appearing in the reference patents and compared them to elements present in applicant's arrangement without considering differences in the interrelationships of these elements. The Examiner has argued, for example, that if valves appear in the references and valves also appear in applicant's invention, then they must be comparable. However, it is the interrelationships of the valves that carry out the objects and functions of applicant's invention, and these objects are not available from the combination disclosed in the references.

With respect to the reference patent to Preukschat (4,986,393) this reference discloses first and second damping elements which have different damping characteristics in a switching unit which enables switching between these two separate first and second damping elements.

There is no disclosure or anticipation, whatsoever, in this reference patent to Preukschat of any type of continuous damping as provided by applicant. In view of the switching unit between the two damping characteristics, it may be seen that there is no continuity within each characteristic or between them. Thus, this reference patent to Preukschat is confined to two damping characteristics, and each characteristic is a specific one that is not related to the other characteristic.

Even when Preukschat is combined with the reference patent to Seufert, the continuous variable damping provided by applicant cannot be attained.

It is a mistake to assume that if elements present in the prior art reference are also present in applicant's arrangement, then they must necessarily function the same and have the same

interrelationships. Applicant's objects can simply not be arrived at through either or combination of the references applied by the Examiner.

It is also a mistake to assume that if a smooth curve is graphically shown in a reference, then such a curve must necessarily correspond to what is present in applicant's invention.

Thus, the graphical representation in Figure 3a in the reference patent to Seufert has nothing to do with damping characteristics. Almost every function in nature can be graphically represented by a continuous or smooth curve, and they are all materially different from each other. The entire Figure 3 of Seufert, has therefore no bearing on applicant's invention.

In the Office Action of November 2, 2005, the Examiner comments on page 7, lines 4-3 from the end, "It is believed that medium is a continuation between soft and hard." This understanding of the concept "continuous" has nothing to do and is entirely unrelated to the understanding that a person skilled in the art possesses in the present technical field. A person skilled in the art has the understanding of the expression "continuous" that between the two extreme values of hard damping and soft damping, it is possible to set any desired value of damping between these two extreme damping values. Accordingly, such settings of damping values that may be desired, can consist of an infinite number of values between the two extreme values of hard damping and soft damping.

In contrast to applicant's arrangement in the present application, the reference patent to Seufert provides only for precisely three damping forces that may be set. These three settings that are only provided are, soft, medium, and hard. The basis for the fundamental difference between applicant's invention and the reference patent to Seufert, is that applicant provides two continuously adjustable or settable valves 5, 6.

In the reference patent to Seufert, on the other hand, only two "on/off" valves 68a, 68b are provided as described in this reference patent in column 5, line 64.

In the Office Action on page 8, lines 1-2, the Examiner asserts that "there are no further explanation nor illustration to describe the meaning of "continuous" to be any different than Seufert's. However, this is incorrect. Referring to applicant's specification, the paragraph starting on page 1, line 26 to page 2, line 1, notes that a continuous transition between hard and soft phases can be obtained by simple means." Accordingly, applicant's present invention is concerned with a continuous transition which means that it is possible to set any desired damping degree between a maximum and a minimum damping quantity.

In the reference patent to Seufert, in contrast to applicant's invention, it is not possible to set any desired damping degree. Instead, in this patent to Seufert, it is possible to set only precisely three damping values such as soft, medium, and hard. A person skilled in the art who considers this arrangement in the reference patent to Seufert, that the valves 68a and 68b are switched through a switching element 50. Consequently, the valves 68a, 68b can with the aid of the switching device 50 to be only turned on or turned off. For this reason, the valves 68a, 68b in the reference patent to Seufert are also denoted as "shut-off valves". The manner in which the valves 68a, 68b in the reference patent to Seufert are always switched only between the positions "open" and "closed" can also be seen from Figure 3d in the patent to Seufert.

In addition thereto, Figure 3b shows clearly and without the possibility of misunderstanding, that the reference patent to Seufert has only a discontinuing damping characteristic. The curve describing the damping characteristic can be seen to be a discontinuous step-function which is also denoted as a "jump function."

The damping degree DBW alternates thereby in a stepped manner between the three values "soft", "medium" and "hard" back and forth. It is thereby not possible to set any desired values of the damping degree. This is a basic functional difference between applicant's invention and the reference patent to Seufert.

Applicant's invention has the basic property that in view of the continuous settable or adjustable valves 5, 6 any desired damping degree or value can be set, and the damping degree can thereby be continuously varied rather than in a stepped manner.

The difference between applicant's invention and the reference patent to Seufert is also emphasized in applicant's specification on page 2, lines 7 through 9 where it is noted that "Since there will be no sudden jolts when shifting between the hard and soft phases and vice versa, riding comfort will be considerably improved."

The reason for asserting that in the present invention there are no "sudden jolts" is because of the continuous adjustability of the valves 5, 6. In contrast thereto, the aforementioned "sudden jolts" appear in the reference patent to Seufert because of the stepped alternating between the three different damping degrees of "soft", "medium" and "hard", whereby the arrangement in the patent to Seufert provides a shock absorber with considerably worse riding comfort.

It is thereby evident that in comparing applicant's invention with the reference patent to Seufert, it is clear for a person skilled in the art, that there are basic differences in the functional operation and thereby also in the damping properties of the shock absorbers.

In the Final Office Action of November 2, 2005, lines 8-9, the Examiner asserts that "It is believed that applicant also provides no mentioning anywhere that the element 7 is a bypass bore with a constant non-variable flow cross-section." This assertion of the Examiner is incorrect, because in applicant's

specification on page 3, lines 13-16, it is described that "bypass valve 7 provides a minimal passage for the hydraulic fluid and accordingly prevents the dashpot from being entirely blocked while regulating valves 5 and 6 are closed." This function can be fulfilled only when the bypass bore 7 has a constant non-variable cross-section. If the bypass bore 7 did not have a constant, non-variable cross-section, then it could be completely closed and that would lead to complete blockage of the shock absorber. Such blockage needs to be avoided, as described above.

Furthermore, applicant's specification on page 6, lines 19-20 notes that "A constricted bypass valve 33 ensures minimal unimpeded flow." This is further analogous support for what has been said above in conjunction with the bypass valve 7.

In view of the preceding explanations, it may be seen that a person skilled in the art would clearly denote that the bypass 7 or 33 has a constant non-variable flow cross-section.

It is submitted that the Examiner has simply misinterpreted the term or expression "continuous" as it is accepted and known in the field and to persons skilled in the art.

It is submitted, further, that applicant provides for a new and marked improvement over the prior art.

Since the claims in the application define clearly the differences between applicant's invention and the prior art, it is believed that the claims should be found allowable.

The attention of the Board of Appeals is respectively directed to the court decision in the case of In re Bisley (94 U.S.P.Q. 80, 86) in which the Court decided that patentability is gauged not only by the extent or simplicity of physical changes, but also by the perception of the necessity or desirability of making such changes to produce a new result. When viewed after disclosure, the changes may seem simple and such as should have been obvious to those in the field. However, this does not necessarily negate invention or

patentability. The conception of a new and useful improvement must be considered along with the actual means of achieving it in determining the presence or absence of invention. The discovery of a problem calling for an improvement is often a very essential element in an invention correcting such a problem. Though the problem, once realized, may be solved by use of old and known elements, this does not necessarily negate patentability.

Furthermore, in the case of ex parte Chicago Rawhide Manufacturing Company (226 U.S.P.Q. 438), the Patent Office Board of Appeals ruled that the mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims on appeal, is not by itself, sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for the worker in the art, without the benefit of appellant's specification, to make the necessary changes in the reference device. The Examiner has not presented any evidence to support the conclusion that a worker in this art would have had any motivation to make the necessary changes in the reference device to render the here-claimed device unpatentable.

In The Standard Oil Company vs. American Cyanamid Company (227 U.S.P.Q. 293), the court ruled that the issue of obviousness is determined entirely with reference to a hypothetical person having ordinary skill in the art. It is only that hypothetical person who is presumed to be aware of all the pertinent prior art. The actual inventor's skill is irrelevant to the inquiry, and this is for a very important reason. The statutory emphasis is on a person of ordinary skill. Inventor's, as a class, according to the concepts underlying the constitution and the statutes that have created the patent system, possess something that sets them apart from the workers of ordinary skill, and one should not go about determining obviousness under 35 U.S.C. 103 by inquiring into

what patentees (i.e., inventors) would have known or would likely have done, faced with the revelation of references. A person of ordinary skill in the art is also presumed to be one who thinks along the line of conventional wisdom in the art and is not one who undertakes to innovate, whether by patient, and often expensive systematic research or by extraordinary insight; it makes no difference which.

In the case of Uniroyal Inc. versus Rudkin-Wiley Corporation (5 U.S.P.Q.2d 1434), the Court decided that when prior art references require a selective combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself. Something in the prior art as a whole must suggest the desirability, and thus the obviousness of making the combination.

The preceding decision is reinforced by the court decision in the case of In re Dow Chemical Company (5 U.S.P.Q.2d 1529), in which it was ruled that most technological advance is the fruit of methodical persistent investigation, as is recognized in 35 U.S.C. §103. The consistent criterion for determination of obviousness is whether the prior art would have suggested to one of ordinary skill in the art that this process should be carried out and would have reasonable likelihood of success, viewed in the light of the prior art. Both the suggestion and the expectation of success must be founded in the prior art, not in the applicant's disclosure.

In the case of United Merchants and Manufacturers Incorporated versus Ladd (139 U.S.P.Q. 199), the District Court ruled that although from simplicity of device and with advantage of hindsight, one might off-handedly be of opinion that anyone should have been able to make invention after studying prior art, claims are allowed since none of the references discloses or suggests the concept which is the crux of the invention.

The Patent Office in the case of Ex parte Fleischmann (157

U.S.P.Q. 155), ruled that that while it might be possible to select features from secondary references and mechanically combine them with primary reference to arrive at applicant's claim combination, there is no basis for making such combination disclosed or suggested in references; only applicant's specification suggests any reasons for combining references; under 35 U.S.C. 103, that does not constitute a bar.

In the case of Panduit Corporation v. Burndy Corporation (180 U.S.P.Q. 498), the District Court ruled that inquiry into patentability must be directed towards subject matter as a whole and not to elements of combination and their individual novelty; combination which results in a more facile, economical, or efficient unit, or which provides results unachieved by prior art structures, cannot be anticipated piecemeal by showing that elements are individually old.

Finally, in the case of Menge and Drissen (181 U.S.P.Q. 94), the Court ruled that progress in crowded arts, usually made in small increments, is as important as it is in arts at the pioneer stage; constitution envisages and seeks progress in useful "arts," not just in those more esoteric or scientific.

In view thereof, it is respectfully requested that the Examiner's rejection of the claims in the application be reversed by the Honorable Board of Appeals.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D. C. 20231, on 2-20-06

MAX FOGIEL
Name of applicant, assignee, or Registered Representative

Max Fogiel
Signature

2-20-06
Date of Signature

Respectfully submitted,

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CLAIMS APPENDIX

1. A regulated dashpot with shock-absorption force controls, for motor vehicles, comprising: at least one flow-regulating system including at least one shock-absorption component for a compression phase and for a decompression phase; at least one valve assembly with electrically variable flow resistance regulated by a regulating valve; at least one fixed bypass valve with a non-varying constricted flow cross-section hydraulically and directly paralleling the flow-regulating system, whereby said fixed bypass valve has a constant opened flow-through cross-section hydraulically in parallel with said regulating valve; said at least one flow regulating system for the compression phase and said at least one flow regulating system for the decompression phase being in the form of said regulating valve with variable flow constriction, said flow resistance being continuous for providing continuous damping between soft and hard damping, said bypass valve preventing pressure pulses in damping fluid when said regulating valve transfer rapidly from open to close positions corresponding to upward wheel shocks and sudden wheel accelerations, so that sudden jolts are prevented when shifting between soft and hard damping for comfort in riding in said vehicles, said fixed bypass valve being integratable into said flow-regulating system and having minimal passage for hydraulic fluid and preventing the dashpot from being entirely blocked when said regulating valve is closed, said flow-regulating system for the compression and decompression phases forming main flow channels through said shock-absorption component, said valve assembly with electrically variable flow resistance forming a main valve assembly for said shock-absorption component, said fixed bypass valve having a constant non-adjustable flow cross-section.

4. A dashpot as defined in Claim 1, including previously adjusted pressure-dependent valve assemblies with a fixed flow

cross-section for said compression phase and said decompression phase and having a hard performance curve, said valve assemblies hydraulically paralleling said system flow-regulating and said shock absorption component.

5. A dashpot as defined in Claim 1, including previously adjusted pressure-dependent valve assemblies with a fixed flow cross-section for said compression phase and said decompression phase and having a soft performance curve, said valve assemblies can be activated and deactivated individually or separately, said valve assemblies hydraulically paralleling said flow-regulating system and said shock absorption component.

6. A dashpot as defined in Claim 1, wherein said flow-regulating system and said flow- shock-absorption component are accommodated in a separate unit in form of a flow regulating block outside the dashpot and communicating with said dashpot through hydraulic-fluid lines.

7. A dashpot as defined in Claim 1, wherein said flow-regulating system and said flow- shock-absorption component are accommodated in a position thereof.

8. A dashpot as defined in Claim 1, wherein said flow-regulating system and said flow- shock-absorption component are accommodated in a bottom valve thereof.

10. A regulated dashpot as defined in Claim 1, wherein said flow regulating system comprises two hydraulically parallel regulating valves, said bypass valve being hydraulically in parallel with said two regulating valves and having minimal passage for hydraulic fluid for preventing the dashpot from being entirely blocked while said regulating valves are closed.

11. A regulated dashpot with shock-absorption force controls, for motor vehicles, comprising: at least one flow-regulating system including at least one shock-absorption component for a compression phase and for a decompression phase; at least one valve assembly with electrically variable flow resistance regulated by a regulating valve; at least one fixed bypass valve with a non-varying constricted flow cross-section hydraulically and directly paralleling the flow-regulating system, whereby said fixed bypass valve has a constant opened flow-through cross-section hydraulically in parallel with said regulating valve; said at least one flow regulating system for the compression phase and said at least one flow regulating system for the decompression phase being in the form of said regulating valve with variable flow constriction, said flow resistance being continuous for providing continuous damping between soft and hard damping, said bypass valve preventing pressure pulses in damping fluid when said regulating valve transfer rapidly from open to close positions corresponding to upward wheel shocks and sudden wheel accelerations, so that sudden jolts are prevented when shifting between soft and hard damping for comfort in riding in said vehicles, said fixed bypass valve being integratable into said flow-regulating system and having minimal passage for hydraulic fluid and preventing the dashpot from being entirely blocked when said regulating valve is closed; said flow-regulating system and said flow-shock-absorption component being accommodated in a separate unit in form of a flow regulating block outside the dashpot and communicating with said dashpot through hydraulic-fluid lines; said flow regulating system comprising two hydraulically parallel regulating valves, said bypass valve being hydraulically in parallel with said two regulating valves and having minimal passage for hydraulic fluid for preventing the

dashpot from being entirely blocked while said regulating valves are closed.

EVIDENCE APPENDIX: None

RELATED PROCEEDINGS APPENDIX: None